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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,156	03/19/2004	Joel B. Shufeldt	4570.91	8636
26360	7590	07/26/2005		
RENNER, KENNER, GREIVE, BOBAK, TAYLOR & WEBER FIRST NATIONAL TOWER FOURTH FLOOR 106 S. MAIN STREET AKRON, OH 44308			EXAMINER NGUYEN, NINH H	
			ART UNIT	PAPER NUMBER
			3745	

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/805,156

Applicant(s)

SHUFELDT, JOEL B.

Examiner

Ninh H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,10 and 22 is/are rejected.
- 7) ☒ Claim(s) 3,5-9 and 11-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/14/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Claim Objections

1. Claim 20 is objected to because of the following informalities:

On line 2 of the claim:

“inferior” should be changed to --interior--

“said opening” should be changed to --one of said openings-- to avoid indefiniteness.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (5,302,081).

Smith discloses a pump comprising a housing having a chamber (Figs. 4, 6, 7); an impeller 44 rotatably received in the chamber, the impeller having a plurality of blades 60; at least one ring associated with the impeller, the ring having a plurality of cavities 84;

wherein the impeller has a plurality of blades with a blade gaps therebetween, wherein the ring includes the plurality of cavities, and wherein a number of the blade gaps corresponds to a number of the plurality of cavities (Figs. 6, 7);

wherein the impeller comprises a hub, a disc radially extending from the hub; and the ring disposed between the disc and the plurality of blades (Fig. 6).

3. Claims 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Verneau et al. (5,143,511).

Verneau discloses a compressor (Figs. 1-3, 9A, 9B) comprising a motor having a rotatable shaft (Fig. 3); a housing having a chamber (Fig. 3), the compressor housing having an inlet opening 18 and an outlet opening 20 (Fig. 3); an impeller secured to the shaft and received in the blower housing; and a baffle assembly 58 sub-dividing the inlet opening (Figs. 3, 9A, 9B).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verneau et al. in view of Smith.

Verneau discloses all the limitations except a plurality of cavities correspond with the gaps as claimed.

Smith teaches a pump comprising an impeller having a hub 46 (Fig. 6), a disc portion extends radially from the hub, a plurality of blades 60 having blade gaps disposed on the circumference of the disc portion, and a plurality of cavities 84 positioned radially inwardly of

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the blade and correspond to the plurality of blade gaps to minimize the leakage between the impeller side surface and the housing side surfaces (col. 9, lines 20-27, abstract).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to the compressor of Verneau with a plurality of cavities correspond to the plurality of blade gaps for the purpose of minimizing the leakage between the impeller side surface and the housing side surfaces as taught by Smith.

Allowable Subject Matter

6. Claim 23, due to the limitation of at least one resonator cavity fluidly connected to each of the gaps, is allowed.

7. Claims 3, and 5-9, due to the limitation of each of the resonator cavity is fluidly connected to one of the corresponding blade gaps, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 11-19, due to the limitation of the baffle assembly comprising a baffle plate extending between substantially opposite sides of the interior wall of the sleeve, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 20 and 21, due to the limitation of a wing extending from the interior wall in to one of the openings, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

The prior art made of record but not relied upon is considered pertinent to applicant's disclosure and consists of 1 patent.

Aust et al. (4,992,022) is cited to show a side channel compressor having a plurality of slits formed on its impeller.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (571) 272-4823. The examiner can be normally reached on Monday-Friday from 7:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (571) 272-4820. The fax number for this group is (571) 273-8300.

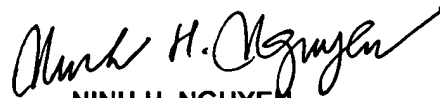
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, please go to <http://pair-direct.uspto.gov> or contact the Electronic Business center (EBC) at 866-217-9197 (toll-free).


NINH H. NGUYEN
PRIMARY EXAMINER

Nhn
July 22, 2005